

Frequently asked questions



What does synthetic oil mean?

Synthetic motor oils are normally based on synthetic hydrocarbon, manufactured either from ethane gas through polymerisation or a multi-phase refining and conversion process. In this way they will be much more resistant to both heat and frost than mineral oils, and their other properties are also most suitable for lubrication purposes. As they are chemically hydrocarbon compounds, the same as mineral oils, they can always be used in place of mineral oils when the most high-class product is desired.

In industrial oils, other synthetic raw materials are also used to a great extent, and they have properties deviating from hydrocarbon. Their use must always be explained separately for each product.

Can mineral oils and synthetic oils be blended?

Oils which are made for the same purpose of use and which meet the same quality classifications can usually be blended, regardless of whether they are single- or multi-grade oils. However, blending of oils meant for different purposes of use – e.g., those for diesel and gasoline engines – is not recommended. Nonetheless, the best way to guarantee uniform quality is to use the same oil between oil changes.

How do I choose the right motor oil?

Selection of the right lubricant is influenced by both the operating conditions and the following criteria, which are important to take into account:

- Right viscosity: (SAE classification)

The engine must start even in extremely low temperatures, and the oil must reliably lubricate the engine also in high temperatures and under heavy load.

- Right quality: (API and/or ACEA classifications)

The oil quality has an impact on the oil change period. The properties of a high-standard motor oil last longer and enable long intervals between oil changes, recommended by the manufacturer. The vehicle manufacturer gives the minimum requirements and the viscosity classifications for the motor oil in the vehicle manual.

What does 0W-40 mean?

This is the SAE viscosity classification for motor oils, indicating the winter and summer classification. The classification has been made on the basis of viscosity – i.e. thickness – without taking any other properties into account. The SAE classification is explained in Neste's guide to vehicle lubrication available at, e.g., Neste service stations.

What do the motor oil classifications SAE, API and ACEA mean?

The SAE classification indicates the oil viscosity, i.e. flow. The smaller the number the thinner the oil.

The API and ACEA classifications define the suitability of the oil for various kinds of motors, such as gasoline or diesel, with or without a turbo, etc.

The classifications are explained in Neste's guide to vehicle lubrication available at, e.g., Neste service stations.

Which factors have an impact on oil consumption?

In addition to the mechanical condition of the engine, oil consumption is most affected by the viscosity of the oil used, the volatility of the base oil, the degree of filling and the manner of driving. Usually, thin oil is consumed faster than thicker oil. Thin oil passes through the clearances to the combustion chamber more easily and also to outside of the engine through any leaking seals.

The manner of driving probably has the greatest impact on the oil consumption of a normal engine in good condition when using high quality oil. Oil consumption is increased most by prolonged use of the accelerator pedal with recurrent engine braking; the oil heats up and become thinner, as a result of which the vacuum from the engine braking draws a lot of it into the combustion chamber through the clearances.

Do some oils tend to have higher consumption than others?

Consumption of thin oil is greater than that of thick oil. This is a general rule, but sometimes there are exceptions. For example, when changing the oil grade, consumption may be higher before the first oil change, and a new engine often consumes more oil than normal whilst running in. All in all, the engine should consume some oil, although it is lubricated to a sufficient degree by a very small amount of high-quality motor oil.

How often should the motor oil be changed?

Oil must be changed no later than the maximum number of driven kilometres, given by the car manufacturer. Winter driving, short trips, dusty conditions, etc., require more frequent oil changes. Sufficiently frequent oil changes are the cheapest way of prolonging engine life.

Why are oil changes important?

The oil properties gradually diminish in use and the number of impurities increases. Sufficiently frequent oil changes remove the impurities from the engine and replace them with high-performance oil. The additives in high-performance motor oil help keep the engine clean and prevent corrosion, resulting in less wear and longer engine life. In addition, high-performance oil keeps the engine and catalytic converter in good condition and the lubricating properties of the oil as good as those of new oil. This achieves cleaner exhaust gas emissions and lower fuel consumption.

Can gasoline and diesel motor oils be blended together, e.g. Neste City Pro and Neste Diesel?

Oils which are made for the same purpose of use and which meet the same quality classifications can usually be blended, regardless of whether they are single- or multi-grade oils. However, blending of oils meant for different purposes of use – e.g., those for diesel and gasoline engines – is not recommended. Nonetheless, the best way to guarantee uniform quality is to use the same oil between oil changes.

Can diesel motor oil be used in gasoline engines?

Yes, if it meets the API and ACEA classifications required in a gasoline engine or the manufacturer's quality requirements. Check the classification requirements in the vehicle service manual. Current synthetic passenger car oils are normally equally suitable for gasoline and diesel engines, and for those with a turbocharger.

As a general rule, diesel motor oils meant for heavy-duty vehicles and construction machinery are not suitable, at least not for newer vehicles with a gasoline engine.

What do the transmission oil classifications API GL-4 and GL-5 mean?

The API classification for transmission oil defines the anti-wear properties of the oil. The higher the number the more efficient the additives against wear. Oils in the highest GL-5 class are normally used in the so-called hypoid drive gears in the rear axle of rear-driven vehicles, which need as efficient additives as possible. GL-4 oils have less additives and are normally used for the transmission of front-wheel drives.

The API class has to be selected according to the vehicle manufacturer's instructions. Using too small a class may result in more rapid wear of parts, whereas using too large a class may cause poor synchronisation in manual transmission.

Can the Neste Oil Jarruneste (brake fluid) be blended with other brake fluids?

Neste Oil Jarruneste (brake fluid) can be blended with other brake fluids meeting the DOT 3 and DOT 4 classification.

Can the Biojähdytinneste (anti-freeze) and ordinary anti-freeze be blended together?

Yes, but density-based meters will give the wrong cold property for the blend. This is due to the fact that the density of the anti-freeze is much lower than that of an ordinary anti-freeze.